

Abstract

METHOD FOR PROTECTING NEW/USED ENGINE PARTS

5 New and used parts of gas and steam turbine engines are protected by
imparting a controlled residual compressive stress to given portions of the part
and then coated by a CVD or PVD process at low temperatures with layers
of TiN or alloys thereof at alternate selective hard and less hardened levels.
The protective treatment is particularly efficacious for airfoils of compressor
10 blades/vanes of gas turbine engines and airfoils of airfoils and certain
components of steam turbine engines. This method is targeted to reduce
erosion, corrosion and stress-corrosion cracking in these parts.